

Patent claims

Method for Constructing a Structure

1. Method for constructing a linear and/or punctiform structure on a support, especially for constructing strip-like electrically conducting contacts on a semiconductor component such as a solar cell, by applying an electrically conducting paste-like substance containing a solvent adhering to a support and subsequent hardening of the substance, wherein, after the substance is applied to the support, a medium containing a polar molecule is applied on the support and/or the substance, through which the solvent contained in the substance is extracted.
2. Method according to claim 1, wherein the medium is applied on the support to the extent that a flowing of the substance along the support is prevented or largely prevented while avoiding a detachment of the substance from the support.
3. Method according to claim 1, wherein the forces of the adhesion between the medium and the support are greater than the forces of adhesion between the substance and the support.
4. Method according to at least one of the preceding claims, wherein water and anionic surfactants such as soap, fatty alcohol sulfates, alkyl benzene sulfonates and/or cationic surfactants such as invert soap and/or amphoteric surfactants and/or non-ionic surfactants such as non-carbonic acid ester of polyalcohols is used as the surfactant medium.
5. Method according to claim 4, wherein the surfactant medium is applied on the support in the form of a liquid or a foam in the region of the applied paste-like substance.
6. Method according to claim 1, wherein the paste-like substance is applied to the support preferably by means of screen printing, tampon printing, finger writing techniques and/or spraying techniques.
7. Method according to claim 1, wherein the medium is applied to the support and/or the substance within a time interval Δt after applying the substance, whereby the time interval Δt comes to ca. 0.1 seconds to ca. 600 seconds, preferably ca. 1 second to ca. 60 seconds.
8. Method according to at least one of the preceding claims, wherein the substance is applied to the support such that a diameter d with in particular $15 \mu\text{m} \leq d \leq 300 \mu\text{m}$,

preferably ca. 80 μm , results.

9. Method according to claim 1, wherein water soluble and water insoluble solvents are added to the substance.
- 5 10. Method according to claim 1, wherein the substance is applied punctiform, linearly or strip-like to the support in such a way that the hardened substance has a height to breadth ratio a with in particular $0.1 \leq a \leq 1.0$, especially a ca. 0.3.
11. Method according to claim 1, wherein a silicon substrate with a surface layer consisting of silicon oxide and/or silicon nitride is used as a support.
- 10 12. Method according to claim 1, wherein a concentration gradient between the medium to be applied to the support and/or the substance and the substance is set with respect to the solvents present in the substance such that the solvent of the substance is extracted from the medium.